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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,601	09/10/2004	Michael Stosser	258516US0PCT	4906

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

KEYS, ROSALYND ANN

ART UNIT	PAPER NUMBER
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1621

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/506,601

Applicant(s)

STOSSER ET AL.

Examiner

Rosalynd Keys

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 8-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1, 3-6 and 8-15 are pending.

Claims 1, 3-6 and 8-15 are rejected.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2006 has been entered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for obtaining polyethers having the claimed unsaturation content using tridecanol, does not reasonably provide enablement for obtaining polyethers having the claimed unsaturation content using all alcohols. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. Claim 6 is directed to preparing a polyether having a content of unsaturated components in the range of 8 mol% to 30 mol% by reacting a 1-butene oxide and an alcohol in the presence of a dmc catalyst. The prior art, for

Art Unit: 1621

example Eleveld et al. (US 6,699,961 B2) and Combs et al. (US 6,821,308) teach that when preparing polyethers by reacting alkylene oxides, such as 1-butene oxide, with an alcohol in the presence of a dmc catalyst one obtains a polyether having very low unsaturation, namely less about 3 mol% (see column 9, lines 7-37 of Eleveld et al. and column 2, line 41 to column 3, line 50 of Combs et al.). Thus, based upon the teaching of the prior art the skilled artisan would not reasonably expect to obtain a polyether having the claimed content of unsaturated components when one reacts an alkylene oxide, including 1-butene oxide, with all alcohols in the presence of a dmc catalyst. The instant specification only discloses examples wherein the initiator is tridecanol, the catalyst is dmc, the alkylene oxide is 1-butene oxide and the unsaturation content ranges from 14.1 to 28.8 (see Table 1 on page 13). When one considers the teaching of the prior art and the disclosure of the Applicants the ordinary skill artisan would not reasonably believe that one could obtain polyethers having the claimed content of unsaturated components using an alcohol as disclosed in claim 6.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1621

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
8. Claims 1, 3-5, and 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel et al. (US 5,004,478) in view of Combs et al. (US 6,821,308 B2).

Vogel et al. disclose base oil comprising a polyether based on propylene oxide or butylene oxide for use as a motor fuel additive (see entire disclosure, in particular column 3, line 10 to column 4, line 66). Vogel et al. teach that the use of polyethers alone combined with known detergents shows that polyethers based on butoxylated aliphatic alcohols are more effective than polyethers based on the same starting alcohols but alkoxylated with a propylene oxide/butylene oxide mixture (see column 4, lines 44-55). The viscosity and oxygen content disclosed by Vogel et al. appears to overlap with the claimed viscosity and oxygen content ranges (see column 3, lines 10-46).

Vogel et al. differ from the instant claims in that they do not disclose the content of the unsaturated components.

Combs et al. teach that polyoxyalkylene monoethers are normally made by basic catalysis, and consequently, they include significant concentrations of alkoxylated unsaturates (column 3, lines 16-22). Combs et al. implicitly teach that such polyoxyalkylene monoethers have unsaturation levels greater than 6 mole percent (see column 3, lines 20-33). The Vogel et al. patent is referenced in the background information of Combs et al. (see column 1, lines 30-

Art Unit: 1621

51). Thus, the Examiner concluded that Combs et al. believe the polyethers of Vogel et al. are prepared via base catalysis (see column 1, line 13 to column 2, line 9).

One having ordinary skill in the art at the time the invention was made would have found it obvious that the polyethers based on propylene oxide or butylene oxide as disclosed by Vogel et al. have significant concentrations of alkoxyated unsaturates, i.e., more than 6 mole percent, since Combs et al. teach that polyoxyalkylene monoethers normally made by basic catalysis have significant concentrations of alkoxyated unsaturates.

Vogel et al. further differ from the instant claims in that the polyoxyalkylene monoethers of Vogel et al. are made using basic catalysts and not a DMC catalyst. Nonetheless the instant polyethers are still unpatentable over the polyoxyalkylene monoethers of Vogel et al. because even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Campbell (US 4,877,416) and Hefner et al. (US 2,841,479).

Campbell teaches hydrocarbyl-terminated poly(oxyalkylene) monools which are prepared by addition of lower alkylene oxides, such as ethylene oxide, propylene oxide, the butylenes oxides, or the pentylene oxides to the hydroxyl compound R_3OH under polymerization conditions (see column 6, line 18 to column 7, line 14). Methods of production and properties of these polymers are taught by Hefner et al. in US 2,841,479 (see column 6, lines 35-37). The

Art Unit: 1621

polymers disclosed in Hefner et al. have viscosities and oxygen contents that overlap with the claimed polyethers (see column 2, lines 5-44; column 4, lines 21-38; and Table III in column 5).

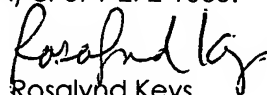
Response to Arguments

10. Applicant's arguments with respect to claims 1, 3-6 and 8-15 are have been considered but are moot in view of the new ground(s) of rejection.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M, W & F 5:30-7:30 am & 1-5 pm; T & Th 5:30 am-4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Rosalynd Keys
Primary Examiner
Art Unit 1621

March 17, 2007